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Lignocellulolytic *Agaricomycetes* from the Brazilian Cerrado biome

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Abstract — A checklist of the *Agaricomycetes* from the Brazilian Cerrado region is provided. It presents data on the distribution of 95 species, 23 families and 11 orders (*Agaricales, Atheliales, Auriculariales, Boletales, Corticiales, Gloeophyllales, Hymenochaetales, Polyporales, Russulales, Sebacinales,* and *Thelephorales*). Twenty-eight taxa previously recorded from the studied region are excluded from the final list. The full checklist is available at www.mycotaxon.com/resources/weblists.html.

Key words — *Basidiomycetes*, diversity, macrofungi

Introduction

Agaricomycetes comprises almost 21,000 species spread in 17 orders of *Basidiomycota* (Kirk et al. 2008) and includes wood-decomposing, parasitic, and ectomycorrhizal fungi (Hibbett 2006).

The biome Cerrado is considered as one of the 25 biodiversity hotspots in the world (Myers et al. 2000), with around 55% of it estimated to be lost with deforestation, mostly for agricultural purposes (Machado et al. 2004). It presently covers around 2,000,000 km^2 through eight of the 26 Brazilian States plus the Federal District (Fig. 1); 70% of the Cerrado is covered by savannahs of different densities and the rest mostly by an herbaceous layer composed by grasses (Rodrigues 2005, Franco 2005). The rainy season is from October to April, with short dry periods in January and February; the annual precipitation varies from 1,200 to 2,000 mm, and the mean temperature is around 22°C (Braga-Júnior & Domingues 2008).

Several studies about fungi have been recently carried out in this biome (Inácio & Dianese 2006, Dornelo-Silva et al. 2007, Hernández-Gutiérrez & Dianese 2008, 2009, Jungbluth et al. 2008, Pereira-Carvalho et al. 2009), but few about *Agaricomycetes* (Baseia & Milanez 2001a,b, 2002a,b, 2003, Baseia 2005, Baseia et al. 2007).

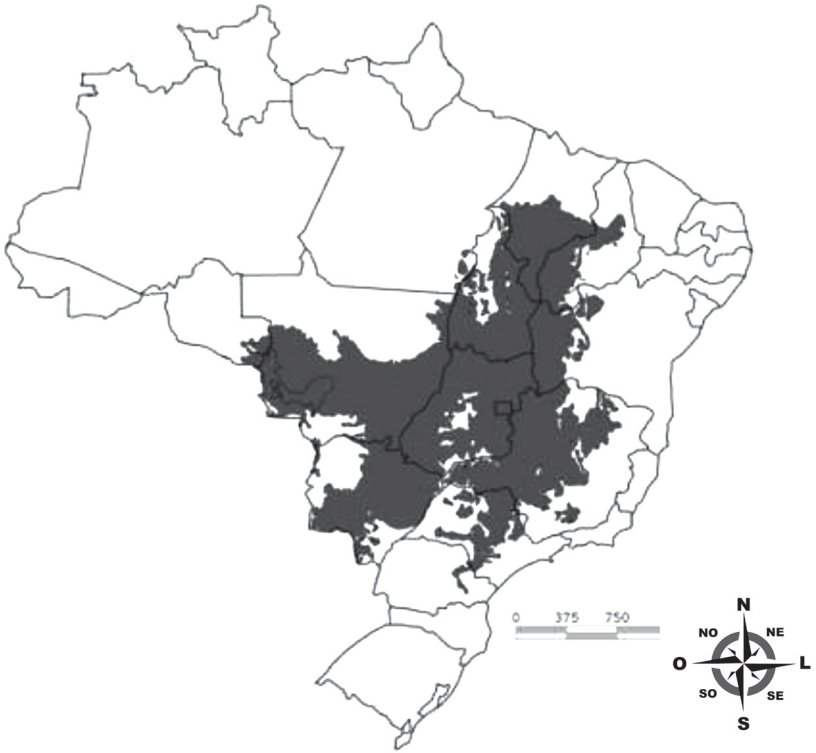

Figure 1. Cerrado biome in shadowed area (modified from: www.colegiosaofrancisco.com.br).

During the last Latin-American Mycology Congress (VI CLAM, 2008), a group of Latin-American researchers on the diversity of the aphyllophoraceous fungi was created and was committed to publish checklists of this fungal group for areas or countries in Latin America. Following this commitment, they are now providing new checklists (Baltazar & Gibertoni 2009, Drechsler-Santos et al. 2009, Gomes-Silva & Gibertoni 2009), and also contributing to the knowledge about the diversity of *Agaricomycetes* in endangered biomes in Brazil.

Material and methods

This study was based on bibliographic research (Sampaio 1916, with data of material collected in the State of Mato Grosso – unfortunately without indication of voucher specimens; Fidalgo et al. 1965, Bononi 1984, Gugliotta 1997, Baseia & Milanez 2001a,b, 2002a,b, 2003, Baseia 2005, Baseia et al. 2007, in the State of São Paulo). Nomenclature and classification systems follow those of Kirk et al. (2008), Index Fungorum (www.indexfungorum.org), Centraalbureau voor Schimmelcultures (www.cbs.knaw.nl), and CORTBASE (http://andromeda.botinst.gu.se/cortbase.html).

Results and discussion

The 95 species of *Agaricomycetes* reported from the Brazilian Cerrado represent 30 families and 12 orders (*Agaricales, Atheliales, Auriculariales, Boletales, Corticiales, Gloeophyllales, Hymenochaetales, Polyporales, Russulales, Sebacinales,* and *Thelephorales*). *Polyporales* is represented by 53 (57.7%) species and six families, followed by 23 (17.4%) species and 11 families of *Agaricales*. The higher diversity of *Polyporales* agrees with results of other basidiomycete inventories in different Brazilian regions and biomes (Baltazar & Gibertoni 2009, Drechsler-Santos et al. 2009, Gomes-Silva & Gibertoni 2009), which was expected for one of the largest groups in *Agaricomycetes*. In this study *Polyporaceae* Fr. ex Corda has the highest number of species (34, or 35.7% of the total), followed by *Hymenochaetaceae* Imazeki & Toki (14). Twenty- six species were excluded due to their temperate to boreal or restricted distribution or undefined nomenclature (Index Fungorum, Centraalbureau voor Schimmelcultures, and Cortbase), and their exsiccata should be revised. Up to now, the 95 species of this checklist represent our current knowledge about the diversity of *Agaricomycetes* in the Brazilian Cerrado biome. Further investigations, however, will certainly increase the number of fungal records and expand the reported species ranges throughout this endangered area.

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